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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,438	03/22/2005	Noriyuki Taoka	256141US90PCT	1266
22850	7590	10/18/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MILLER HARRIS, AMBER R	
			ART UNIT	PAPER NUMBER
			1797	
			NOTIFICATION DATE	DELIVERY MODE
			10/18/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	Application No. 10/506,438	Applicant(s) TAOKA ET AL.	
	Examiner Amber Miller-Harris	Art Unit 1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 7-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/30/2007, 10/05/2006, 04/25/2006, 06/17/2005, 03/04/2005, 02/15/2005, 11/30/2004, 09/02/2004.

## **DETAILED ACTION**

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1797

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al. JP 2001-9617 (translation provided by Ohno et al. US 6,669, 751) in view of Ogawa et al. US 5,733,352.

Regarding claim 7, the Ohno et al. reference discloses a honeycomb filter for purifying exhaust gases comprising: a columnar body made of porous ceramic comprising through holes placed in parallel with one another in a length direction with wall portion interposed there between (column 3, lines 1-18 and figure 4), and a part or all of said wall portion that separates said through holes functions as a filter for collecting particulates (column 2, lines 65-67), wherein a length 1 (column 5, lines 58-59) of a longest side in a cross section perpendicular to said length direction of said through hole and a length L (column 18, lines 44-46) in the length direction of said columnar body satisfy:  $60 \leq L/1 \leq 500$ . The reference does not disclose a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $Ra \leq 100\mu\text{m}$ .

The Ogawa et al. discloses a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $Ra \leq 100\mu\text{m}$  (column 4, lines 37-46).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Ohno et al. reference to include a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $Ra \leq 100\mu\text{m}$  (Ogawa et al. column 4, lines 37-46) in order to increase the collectable amount of combustible fine particles.

For claim 8, the Ohno et al. reference discloses a honeycomb filter for purifying exhaust gases comprising, a columnar body made of porous ceramic comprising through holes placed in parallel with one another in a length direction with wall portion interposed there between (column 3, lines 1-18 and figure 4), and a part or all of said wall portion that separates said through holes functions as a filter for collecting particulates (column 2, lines 65-67), wherein an area S (column 5, lines 58-59) of cross section perpendicular to a length direction of said through hole and the length L (column 18, lines 44-46) in the length direction of said columnar body satisfy:  $20 L/S 400$ . The reference does not disclose a surface roughness Ra (according to JIS B 0601) of the inner wall of the through hole satisfies:  $Ra \leq 100\mu\text{m}$ .

The Ogawa et al. reference discloses a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $Ra \leq 100\mu\text{m}$  (column 4, lines 37-46).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Ohno et al. reference to include a surface roughness

Art Unit: 1797

Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $Ra \leq 100\mu\text{m}$  (Ogawa et al. column 4, lines 37-46) in order to increase the collectable amount of combustible fine particles.

For claim 9, the Ohno et al. reference does not disclose the surface roughness Ra (according to JIS B 0601) of the inner wall of the through hole satisfies:  $1.0\mu\text{m} \leq Ra \leq 100\mu\text{m}$ .

The Ogawa et al. reference discloses a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $1.0\mu\text{m} \leq Ra \leq 100\mu\text{m}$  (column 4, lines 37-46).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Ohno et al. reference to include a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $1.0\mu\text{m} \leq Ra \leq 100\mu\text{m}$  (Ogawa et al. column 4, lines 37-46) in order to increase the collectable amount of combustible fine particles.

For claim 10, the Ohno et al. reference does not disclose the surface roughness Ra (according to JIS B 0601) of the inner wall of the through hole satisfies:  $1.0\mu\text{m} \leq Ra \leq 100\mu\text{m}$ .

The Ogawa et al. reference discloses a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $1.0\mu\text{m} \leq \text{Ra} \leq 100\mu\text{m}$  (column 4, lines 37-46).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Ohno et al. reference to include a surface roughness Ra (according to JIS B 0601) of the inner wall of said through hole satisfies:  $1.0\mu\text{m} \leq \text{Ra} \leq 100\mu\text{m}$  (Ogawa et al. column 4, lines 37-46) in order to increase the collectable amount of combustible fine particles.

For claim 11, the Ohno et al. reference discloses the columnar body comprising a plurality of rectangular columnar porous ceramic members combined through an adhesive layer, each of said columnar porous ceramic members comprising the through holes placed in parallel with one another in the length direction with the wall partition interposed there between (figure 2, objects 14 and 15).

For claim 12, the Ohno et al. reference discloses the columnar body comprising a plurality of rectangular columnar porous ceramic members combined through an adhesive layer (figure 2, objects 14 and 15), each of said columnar porous ceramic member comprising the through holes placed in parallel with one another in the length direction with the wall partition interposed there between (figure 2, objects 14 and 15).

Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al. JP 2001-9617 in view of Ogawa et al. US 5,733,352 as applied to claim 7 above, and further in view of Higuchi et al. US 4,364,760.



For claim 13, the Ohno et al. reference does not disclose a catalyst is supported thereon.

The Higuchi et al. reference discloses a catalyst is supported thereon (column 1, lines 26-28).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ohno et al. reference to include a catalyst is supported thereon (Higuchi et al. column 1, lines 26-28) because this would allow the apparatus to clean automobile exhaust gas, a heat exchanger or the like.

Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al. JP 2001-9617 in view of Ogawa et al. US 5,733,352 as applied to claim 8 above, and further in view of Higuchi et al. US 4,364,760.

For claim 14, the Ohno et al. reference does not disclose a catalyst is supported thereon.

The Higuchi et al. reference discloses a catalyst is supported thereon (column 1, lines 26-28).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Ohno et al. reference to include a catalyst is supported thereon (Higuchi et al. column 1, lines 26-28) because this would allow the apparatus to clean automobile exhaust gas, a heat exchanger or the like.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwamoto et al. US 5,853,459 in view of Ohno et al. JP 2001-9617 and Ogawa et al. US 5,733,352.

Regarding claim 15, the Kuwamoto et al. reference discloses an exhaust gas purifying device comprising: a casing connected to an exhaust gas passage of an internal combustion engine; and the honeycomb filter for purifying exhaust gases and heating means, which are equipped inside said casing, wherein upon carrying out a regenerating process for said honeycomb filter for purifying exhaust gases, gases heated by the heating means are flown into the honeycomb filter for purifying exhaust gases (column 6, lines 20-20-29). The reference does not disclose the honeycomb filter according to claim 7, nor the conditions of the exhaust gases entering the honeycomb filter being a flow-in rate of 0.3 m/sec or more: and an oxygen concentration of 6% or more.

As can be seen above, the Ohno et al. and the Ogawa et al. references disclose the honeycomb filter of claim 7.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Kuwamoto et al. reference to include the honeycomb filter of claim 7 because the honeycomb filter within the Kuwamoto et al. reference performs the same function as the honeycomb filter of claim 7.

The conditions of the exhaust gases entering the honeycomb filter being a flow-in rate of 0.3 m/sec or more: and an oxygen concentration of 6% or more are the intended use of the apparatus, and could have been used in the Kuwamoto et al. reference without changing the functionality of the apparatus.

Regarding claim 16, the Kuwamoto et al. reference discloses an exhaust gas purifying device comprising: a casing connected to an exhaust gas passage of an

Art Unit: 1797

internal combustion engine; and the honeycomb filter for purifying exhaust gases and heating means, which are equipped inside said casing, wherein upon carrying out a regenerating process for said honeycomb filter for purifying exhaust gases, gases heated by the heating means are flown into the honeycomb filter for purifying exhaust gases (column 6, lines 20-20-29). The reference does not disclose the honeycomb filter according to claim 8, nor the conditions of the exhaust gases entering the honeycomb filter being a flow-in rate of 0. 3 m/sec or more: and an oxygen concentration of 6% or more.

As can be seen above, the Ohno et al. and the Ogawa et al. references disclose the honeycomb filter of claim 8.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Kuwamoto et al. reference to include the honeycomb filter of claim 8 because the honeycomb filter within the Kuwamoto et al. reference performs the same function as the honeycomb filter of claim 8.

The conditions of the exhaust gases entering the honeycomb filter being a flow-in rate of 0. 3 m/sec or more: and an oxygen concentration of 6% or more are the intended use of the apparatus, and could have been used in the Kuwamoto et al. reference without changing the functionality of the apparatus.

### ***Conclusion***

Art Unit: 1797

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amber Miller-Harris whose telephone number is (571) 270-3149. The examiner can normally be reached on Mon-Thur (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AH

  
WALTER D. GRIFFIN  
SUPERVISORY PATENT EXAMINER